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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/461,728	12/16/1999	GREG J. REGNIER	219.36965XOO	4189

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ANTONELLI TERRY STOUT AND KRAUS
SUITE 1800
1300 NORTH SEVENTEENTH STREET
ARLINGTON, VA   22209

EXAMINER
DO, NHAT Q

ART UNIT	PAPER NUMBER
2663	

DATE MAILED: 03/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _24 February 2000_ .

2a)☐ This action is FINAL.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-23_ is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-23_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _24 February 2000_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

     If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All b)☐ Some * c)☐ None of:

         1.☐ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____ .

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

     a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)   4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   5) ☐ Notice of Informal Patent Application (PTO-152)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .   6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1, 2, 4, 5, 7, 10, 11, 13, 15, and 21 are rejected under 35 U.S.C. 102(e) as being

anticipated by U.S. Patent No. 5,872,769 to Caldara et al.

Regarding to claims 1, 10, and 21, Caldara et al disclose a network comprising:

A first node/host system 20 with a first plurality of queues arranged for high priority to

low priority data movement operations (Fig. 1, 6);

A second node/remote system 22 connected to the first node by control and data channels

(Fig. 1, 6). The second node comprises a second plurality of second queues arranged

correspondence with the first plurality of queues for high to low priority data movement

operation via the control and data channels (Fig. 1, 6; col. 5);

Wherein, the control and data channels are separate (Col. 5, lines 2-10).

Regarding to claims 2, and 11, Caldara et al disclose control channels (control signals)

are used to prioritize command processing with different priority level (Col. 5, lines 14-30; col.

9, lines 8-40),

Regarding to claims 4, and 13, Caldara et al disclose data is transmitted in groups of cells, and each cell has a header utilized for indicating whether a cell us transmitted in a priority order (Col. 1, lines 18-25; col. 6, lines 9-20).

Regarding to claim 5, Caldara et al disclose a switch, which comprises a plurality of different routes for connecting the first and second node (Fig. 1, 6).

Regarding to claims 7, 15, Caldara et al disclose the data is spread between multiple data channels (Fig. 6), and it is inherent that latency is decreased and bandwidth is increased when data is spread in different channels.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3, 6, 12, 14, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caldara et al.

Regarding to claims 3, 12, Caldara et al disclose providing queue for control commands (Col. 5, lines 4-6); and queue for data movement operation (Fig. 6) but fail to disclose providing high priority queue for high priority commands and low priority queue for low priority commands. However, Caldara et al disclose the queues are classified based on priority. It would have been obvious to a person have ordinary skill in the art by the time the invention was made to provide high priority queue for high priority commands and low priority queue for low priority commands. A skilled artisan would have been motivated to do so because using one

common queue for all commands makes the command processing more complicated and difficult.

Regarding to claims 6, and 14, Caldara et al fail to disclose a channel adapter for multiplexing data of the same priority form from multiple queues through assigned channels. However, Caldara et al disclose for multiplexing data of the same priority form from multiple queues through assigned channels (Fig. 6). Therefore, it would have been obvious to a person have ordinary skill in the art by the time the invention was made to add a channel adapter for multiplexing data of the same priority form from multiple queues through assigned channels. A skilled artisan would have been motivated to do so in order to multiplex data of the same priority form from multiple queues as taught by Caldara et al.

Regarding to claim 22, further to the rejection of claims 1, Caldara et al fail to disclose a computer-readable medium for storing computer executable instructions for controlling the procedure. However, it is well known in the art that a procedure can be implemented by using hardware, software, or firmware. Each way has its own trade-off characteristics. Using software gives more flexibility in modifying the system because what must be done is just rewriting the program. Therefore, it would have been obvious to a person having ordinary skill in the art by the time the invention was made to make a computer-readable medium for storing computer executable instructions for controlling the procedure. A skilled artisan would have been motivated to so in order to employ the flexibility in modifying the system.

5.   Claims 8, 9, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caldara et al in view of U.S. Patent No 6,421,742 to Tillier.

Regarding to claims 8, and 16, Caldara et al fail to disclose the first and second nodes are channel endpoints of the network implemented in compliance with the NGIO specification. Tillier disclose a similar system with a first and second nodes are channel endpoint of a network implemented in compliance with NGIO specification (Fig. 1; col. 3, line 12-col. 5, line 35). Therefore, it would have been obvious to a person having ordinary skill in the art by the time the invention was made to modify the first and second node in the system taught by Caldara et al so that the first and second nodes are channel endpoints of the network implemented in compliance with the NGIO specification as taught by Tillier. A skilled artisan would have been motivated to so in order to employ the advantage of new technology as taught by Tillier (Col. 3, lines 23-27).

Regarding to claims 9, and 17, Caldara et al fail to disclose that the channels are supported by VI and NGIO specifications. Tillier disclose a similar system supported by VI and NGIO specifications (Fig. 1; col. 3, line 12-col. 5, line 35). It would have been obvious to a person having ordinary skill in the art by the time the invention was made to design the system taught by Caldara et al so that the channels are supported by VI and NGIO specifications. A skilled artisan would have been motivated to so in order to employ the advantage of new technology as taught by Tillier (Col. 3, lines 23-27; col. 5, lines 27-30).

6.   Claims 18-20, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caldara et al in view of U.S. Patent No. 5,790,522 to Fichou et al.

Regarding to claims 18, and 19, Caldara et al disclose:

Establishing control channel for transferring commands that describe data movement operation between two nodes (Col. 5, lines 1-30);

Transferring data in groups of cells (Col. 1, lines 18-25; col. 5, lines 50-63).

Caldara et al fail to disclose assigning logical priority to control channel for transferring high priority commands before low priority commands; and moving high priority data before move low priority data. Fichou et al. disclose a similar system wherein high priority data is moved before low priority data (Fig. 9; col. 11). It would have been obvious to a person having ordinary skill in the art by the time the invention was made to modify the first and second node in the system taught by Caldara et al so that the system can assign logical priority to control channel for transferring high priority commands before low priority commands; and move high priority data before move low priority data. A skill artisan would have been motivated to so in order to transmit real-time data that is sensitive to delay before transmit non-real time data as taught by Fichou et al.

Regarding to claim 20, Caldara et al disclose data is transmitted in groups of cells, and each cell has a header utilized for indicating whether a cell us transmitted in a priority order (Col. 6, lines 9-20).

Regarding to claim 23, further to the rejection of claims 18, Caldara et al fail to disclose a computer-readable medium for storing computer executable instructions for controlling the procedure. However, it is well known in the art that a procedure can be implemented by using hardware, software, or firmware. Each way has its own trade-off characteristics. Using software gives more flexibility in modifying the system because what must be done is just rewriting the program. Therefore, it would have been obvious to a person having ordinary skill in the art by the time the invention was made to make a computer-readable medium for storing computer executable instructions for controlling the procedure. A skilled artisan would have been motivated to so in order to employ the flexibility in modifying the system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhat Do whose telephone number is (703) 305-5743. The examiner can normally be reached on 8:30 AM - 5:30 PM Monday - Friday.
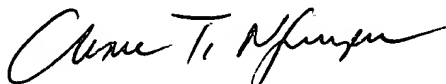
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-6743 for regular communications and 703-308-6743 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Nhat Do
Examiner
Art Unit 2663

ND

March 21, 2003

CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600